

Position Statement

Combined Oral Contraceptives and Cancer Risk

Key messages

- Women found to be positive for human papillomavirus (HPV) who have used a combined oral contraceptive for five or more years are at increased risk of developing cervical cancer. The Cancer Council recommends that **all** women aged 18-70 years who have ever been sexually active have a Pap test every two years.
- Women who are using combined oral contraceptives or have used them in the past 10 years are at a slightly increased risk of developing breast cancer. The Cancer Council recommends that **all** women aged 50–69 years have a mammogram every two years through BreastScreen Australia.
- Combined oral contraceptives provide some protection against endometrial and ovarian cancer. The protective benefits of combined oral contraceptives extend to women at risk of hereditary ovarian cancer.
- Further research is required to assess the benefits and harms of long-term use (greater than five years) of recently introduced hormonal contraception alternatives on cancer and other health risks.

Background

Hormonal contraceptives have been available in Australia since the 1960s. Oral contraceptives containing synthetic oestrogen and progestogen (combined oral contraceptives - COCs) remain the most popular reversible method of birth control in Australian women younger than 30 years.¹ Modern oral contraceptives have smaller doses of hormones than the first formulations, which has greatly decreased the associated risks and side effects.²

Risks of combined oral contraceptives

Breast cancer

Results of research indicate that women who are using COCs or have used them in the past 10 years are at a slightly increased risk of developing breast cancer. The risk is equal to around one extra case per year for every 100,000 women.³ The risk begins to decline shortly after stopping use and returns to normal within 10 years of discontinuing use.³ A recent study found no evidence that current low-dose formulations added to the risk of early-onset breast cancer for women with BRCA1 and BRCA2 gene changes.⁴ (See position statement on Breast Cancer for information on early detection.⁵)

Cervical cancer

The human papilloma virus (HPV) is a common sexually transmitted infection, with estimates that up to 75 per cent of people are infected at some time in their lives.⁶ Some types of HPV infection can persist and occasionally cause cervical cancer. Typically, progression of HPV infection to cervical cancer is slow.

A recent systematic review of the research has shown that women found to be positive for HPV who have been using COCs for 10 or more years are 2.5 times as likely as never-users to develop cervical cancer.⁷ (See National Cancer Prevention Policy 2004–06 for information on cervical cancer and cervical screening.⁸)

Non-cancer risks

Although safe for the vast majority of women, COC use is associated with an increased risk of serious conditions including cardiovascular disease, stroke and venous, and pulmonary thrombosis. These complications are largely confined to current COC users, especially if they are over 35 years, also smoke and/or have other predisposing factors such as obesity, a history of developing blood clots, a known clotting disorder, hypertension or pre-existing cardiovascular disease.^{9,10} Women with one or more of these factors should be made aware of the risks in discussions with their doctor.

Unknown risks

The risks to health in the long-term use (greater than five years) of extended hormonal contraception (where the aim is to delay or prevent menstrual bleeding) or regular use of emergency hormonal contraceptives (used within 72 hours of unprotected intercourse) are currently unknown.

Benefits of combined oral contraceptives

COCs provide some protection against endometrial and ovarian cancer, and this protection may persist for 15 or more years after stopping use.¹¹ The protective benefits of COCs extend to women at risk of hereditary ovarian cancer.¹² There is limited evidence that oral contraceptives may also decrease the risk of colorectal cancer.¹³ Other non-contraceptive health benefits of oral contraceptives include lower rates of pelvic inflammatory disease, recurrent ovarian cysts, benign breast cysts and fibroadenomas.¹⁴

New hormonal contraceptive options

The range of hormonal contraceptive options has increased significantly over the past 10 years. New options available in Australia include oral progestogens, progestogen implants and progestogen-bearing intrauterine devices.¹ Hormonal contraceptive options, which may soon be introduced in Australia, include oestrogen/progestogen dermal patches and vaginal rings.¹

Further research is required to assess the benefits and harms of long-term use (greater than five years) of these new hormonal contraception alternatives on cancer and other health risks.

Further information

- The Cancer Council Australia – www.cancer.org.au
- Position Statement Early Detection Of Breast Cancer
<http://www.cancer.org.au/content.cfm?randid=575635>
- The Cancer Council's Cancer Helpline – 13 11 20 (cost of a local call)
- National Breast Cancer Centre – www.nbcc.org.au
- Article: Foran, T. New contraceptive choices across reproductive life MJA 2003; 178 (12): 616-620
http://www.mja.com.au/public/issues/178_12_160603/for10744_fm.html
- National Cancer Institute (US). Oral Contraceptives and Cancer Risk. Reviewed: 11/03/2003 http://cis.nci.nih.gov/fact/3_13.htm
- The Medical Eligibility Criteria for Contraceptive Use. WHO. Third edition – 2004. http://www.who.int/reproductive-health/publications/MEC_3/index.htm

References

1. Foran TM. New contraceptive choices across reproductive life. *Med J Aust* 2003;178: 616–20.
2. Yuzpe A. Oral contraception: trends over time. *J Reprod Med* 2002;47(11 Suppl):967–73.
3. Breast cancer and hormonal contraceptives: collaborative reanalysis of individual data on 53 297 women with breast cancer and 100 239 women without breast cancer from 54 epidemiological studies. Collaborative Group on Hormonal Factors in Breast Cancer. *Lancet*. 1996 Jun 22;347(9017):1713-27.
4. Milne RL, Knight JA, John EM, Dite GS, Balbuena R, Ziogas A, Andrulis IL, West DW, Li FP, Southey MC, Giles GG, McCredie MR, Hopper JL, Whittemore AS. Oral contraceptive use and risk of early-onset breast cancer in carriers and noncarriers of BRCA1 and BRCA2 mutations. *Cancer Epidemiol Biomarkers Prev*. 2005 Feb;14(2):350-6.
5. Position statement on The Early Detection of Breast Cancer. The Cancer Council Australia, 2004, viewed 9 May 2005 <<http://www.cancer.org.au>>
6. Moreno V, Bosch FX, Muñoz N, et al, for the International Agency for Research on Cancer (IARC) Multicentric Cervical Cancer Study Group. Effect of oral contraceptives on risk of cervical cancer in women with human papillomavirus infection: the IARC multicentric case-control study. *Lancet* 2002;359:1085–92.
7. International Agency for Research on Cancer 2005. *IARC Handbooks of Cancer Prevention Volume 10 Cervix Cancer Screening*. Lyon: IARC
8. The Cancer Council Australia. National cancer prevention policy 2004–06. The Cancer Council Australia, 2004, viewed 9 May 2005 <<http://www.cancer.org.au/content.cfm?randid=988667>>
9. The Medical Eligibility Criteria for Contraceptive Use. WHO. Third edition – 2004. http://www.who.int/reproductive-health/publications/MEC_3/index.htm
10. Tans G, Bouma BN, Buller HR, Rosing J. Changes of hemostatic variables during oral contraceptive use. *Semin Vasc Med*. 2003;3(1):61–8.
11. Fraser IS, Kovacs GT. The efficacy of non-contraceptive uses for hormonal contraceptives. *Med J Aust* 2003 16;178(12):621–3.
12. Kuschel B, Lux MP, Goecke TO, Beckmann MW. Prevention and therapy for BRCA1/2 mutation carriers and women at high risk for breast and ovarian cancer. *Eur J Cancer Prev* 2000;9(3):139–50.
13. Burkman RT. Reproductive hormones and cancer: ovarian and colon cancer. *Obstet Gynecol Clin North Am* 2002;29(3):527–40.
14. Ian S Fraser Forty years of combined oral contraception: the evolution of a revolution *MJA* 2000; 173: 541-544